IN THE CLAIMS:

Please amend claims 1-34 and add claims 35 and 36 as follows:

1. (Amended) A [P]preform allowing for the obtainment, after deformation, [customized] a personalized orthodontic of [orthopedic dentofacial appliance] dentofacial orthopedic apparatus characterized [in that it has the general form] by a three-dimensional hollow body [and in that] which has a form that allows [its] the preform's expansion inside a mold reproducing the morphology of the patient.

2. (Amended) The [P]preform according to claim 1, [characterized in that] wherein [is] has a hollow tubular or approximately tubular shape.

3. (Amended) The [P]preform according to [any of claims 1 through 2] claim 1, characterized [in that is has a] by a hollow, tubular or approximately tubular shape[,] and is cut [out at the top front] on the upper anterior part to form an opening 8.

4. (Amended) The [P]preform according to [any of claims 1 through 3] claim 1, characterized by the fact [in] that it is [made of a plastic material of the thermoplastic or thermosetting type deformable by] manufactured in thermoplastic or thermosetting plastic material which is deformable through expansion.

5. (Amended) The [P]preform according to claim 4, characterized by the fact [in] that it is [made of a] manufactured using a thermoplastic plastic material chosen [from] in the group constituted [by] of polyethylene, polypropylene, polycarbonate[s], methyl polymethacrylate, PVC, polyurethanes, or [of a] using a thermosetting plastic material chosen [from] in the group constituted by methyl polymethacrylate and polyurethanes.

6. (Amended) The [P]preform according to [any of claims 1 through 5] claim 1, characterized [in that it has on the] by a surface [guiding means, for example bosses or recesses,

intended to guide the operator during the cutting operation, and/or pre-drilled holes (7) used to contain the adhesive paste for the functional appliance] with guides such as bumps or recesses intended to guide the technician during cutting operations and/or initial holes (7) that are used to hold the fastening hooks of the finished dentofacial appliance.

7. (Amended) The [P]preform according to [any of claims 1 through 6] claim 1, characterized [in] by the fact that it is [produced in unrolled] manufactured in a flat, developed shape [form before] prior to being [shaped] given shape by [the operator] a technician.

8. (Amended) The [P]preform according to [any of the preceding claims] claim 1, [allowing the obtainment] yielding, after deformation, [of] a [Bonnet night lingual retainer (N.L.R.)] Bonnet's Nighttime Lingual Envelope or N.L. E.

9. (Amended) A [P]process for [producing] the production of a [customized] personalized orthodontic or [orthopedic dentofacial] dento-facial orthopedic [appliance] apparatus, [characterized in that it comprises contains] the following [stages] steps:

- [production of an expansion] comprising creation of a female mold (9, 10) [made] based at least [partially from a design] in part on study models [model or models made] created by [the] a practitioner from the [impression or impressions taken] casting or castings made from his patient,

- positioning [of] the preform (1) [according to any of claims 1 through 8] of claim 1 in the [expansion] female mold,

- expansion of the preform until it has reached the desired shape,

- [demolding of the appliance obtained, which] ejection from the mold of the obtained apparatus which becomes functional after finishing.

10. (Amended) The [P]process according to claim 9, characterized [in] by the fact that the expansion [takes place] is performed with heat and [in] that the preform is brought to the [softening point] deformation temperature of its [constituent] constitutive material [before] prior to the expansion stage, [either before or after the positioning stage in the expansion mold].

11. (Amended) The [P]process according to claim 10, characterized [in] by the fact that the [reaching of the] expansion temperature is [produced] attained by the action of [a] radiation or a heat[-exchanging liquid] bearing fluid.

12. (Amended) The [P]process according to claim 11, characterized in that the radiation used is of the microwave or ultraviolet or infrared type.

13. (Amended) The [P]process according to [any of claims 9 through 12] claim 9, characterized [in] by the fact that the expansion is [produced] performed by any appropriate [means for obtaining] method to obtain the expansion of the preform to the desired shape.

14. (Amended) The [P]process according to claim 13, characterized [in] by the fact that the expansion is [produced] performed by the action of an expansion fluid or mechanically.

15. (Amended) The [P]process according to claim 14, characterized [in] by the fact that the expansion fluid is compressed air or water.

16. (Amended) The [P]process according to [any of claims 9 through 15] claim 9, characterized [in] by the fact that the expansion [is produced by means] takes place through the intermediary of an [expanding] expansion core (14) placed in the preform (1) and inflated by the expansion fluid.

17. (Amended) The [P]process according to claim 16, characterized in that the core [has] is a controlled expansion core (16).

18. (Amended) Process according to claim 16 [or 17], characterized [in that the] by an [expanding] expansion core (14,16) [is] made of a material resistant to the expansion temperature, [[for example] such as an elastomer material].].

19. (Amended) Process according to [any of claims 9 through 18] claim 9, characterized [in] by the fact that the preform is made of thermosetting material and in that the expansion stage is simultaneously or [subsequently] later accompanied by a [stage] step for [polymerizing] polymerization of the thermosetting material.

20. (Amended) The [P]process according to [any of claims 9 through 19] claim 9, characterized [in] by the fact that it [also comprises, during the expansion, the] further comprises, insertion by duplicate molding of fastening pieces or [complementary] additional pieces during expansion.

21. (Amended) The [P]process according to [any of claims 9 through 20] claim 9, characterized [in] by the fact that the finishing [stage comprises] step includes at least one of the following actions: [creation] preparation of one or more openings, polishing, anchoring of fastening hooks, [attachment] setting of [complementary] additional pieces, elimination of [the unnecessary] useless parts, reduction of the surface [of] in certain areas.

22. (Amended) The [P]process according to [any of claims 9 through 21] claim 9, characterized [in] by the fact that it [comprises] includes a [stage] step for anchoring the fastening hooks [at] in movable [anchor] anchoring points.

23. (Amended) The [P]process according to [any of claims 9 through 22] claim 9, characterized [in] by the fact that the [orthodontic or] dento-facial orthopedic [dentofacial appliance] or orthodontic device obtained by the process [during a previous] in the preceding cycle is used as a preform.

24. (Amended) The [P]process according to [any of claims 9 through 23] claim 9, characterized [in] by the fact that the [customized] personalized orthodontic or [orthopedic dentofacial appliance] dento-facial orthopedic apparatus obtained is a [Bonnet night lingual retainer (N.L.R.)] Bonnet's Nighttime Lingual Envelope or N.L.E.

25. (Amended) [Expanding] An expansion core[, characterized in that it is used in a] appropriate for implementation of a process according to [any of claims 16 through 24] claim 16[,] and [in that it comprises] containing at least one means [for] of controlling its expansion.

26. (Amended) An expansion core [Core] according to claim 25, [characterized in by the fact that the means for] wherein the method of controlling its expansion is chosen from among the following [means] methods, [i.e.] an increase in the thickness of its wall in certain areas and the [insertion into] introduction in its wall of rigid[, for example metal,] reinforcements.

27. (Amended) An [E]expansion [device characterized in that it allows the expansion of the preform] mechanism appropriate for the implementation of a process according to [claims 1 through 8 until it has reached] claim 9 and adapted so that the preform reaches the desired shape[, through the] by displacement of mechanical [parts moved] pieces changed by the [operator] technician during the expansion phase.

28. (Amended) A [F]fastening hook for an orthodontic or [orthopedic dentofacial appliance produced] dento-facial orthopedic apparatus according to the process described in [claims 9 through 24] claim 9[, characterized in that it comprises a branch called a return branch that] based on a preform made of a thermoplastic plastic material characterized by the fact that it contains a segment called a bent-back segment which remains outside the [appliance after] apparatus at the end of insertion.

29. (Amended) A [D]device for attaching fastening hooks [to] on an orthodontic or [orthopedic dentofacial appliance] dento-facial orthopedic apparatus [produced] manufactured according to the process described in [claims 9 through 24] claim 9[,] characterized [in that it comprises] by a [device] mechanism for supplying electrical heating energy and [for] stable mechanical positioning of the fastening hook to be anchored.

30. (Amended) A [Device] mechanism according to claim 29, characterized [in] by the fact that the [supply of] electrical energy is [provided] supplied [either] by a portable current generator [hand-held] held by the hand of a technician [by the operator] and [comprising] containing two rigid electrical conductors,[or by a gun that mechanically [holding] holds a pair of rigid electrical conductors connected by flexible conductors to a fixed generator].

31. (Amended) A [Device] mechanism according to [claim 29 or 30] claim 29, characterized [in] by the fact that the stable mechanical positioning is [performed] done [by] with the ends of [the] electrical conductors[,] which have [the form of a clip or] a clamp shape, adapted to the diameter of the wire or to the shape of the hook to be inserted, for example a fork shape.

32. (Amended) A [P]process according to claim 22, characterized [in] by [that the] fastening hooks [are] attached [according to claim 28 by means of an attaching device according to any of claims 29 through 31] using a fastening mechanism.

33. (Amended) [Customized] A personalized orthodontic or [orthopedic dentofacial appliance] dento-facial orthopedic apparatus, characterized [in] by the fact that it is [produced] manufactured [from a] based on a preform (1) according to [any of claims 1 through 8] claim 1 [by means of a process according to any of claims 9 through 24 and 32].

34. (Amended) A personalized [O]orthodontic or [orthopedic dentofacial appliance] dento-facial orthopedic apparatus according to claim 33, characterized [in that it constitutes] by a [Bonnet night lingual retainer (N.L.R.)] Bonnet's Nighttime Lingual Envelope or N.L.E.

--35. The process according to claim 18, wherein the material registrant to expansion temperature is an elastomer. --

--36. A mechanism according to claim 29, characterized by the fact that the electrical energy is supplied by a gun that mechanically holds a pair of rigid electrical conductors connected by flexible conductors to a fixed generator. --

REMARKS

Claims 1-36 are pending in this application. By this Amendment, claims 1-34 are amended to better define the subject matter that Applicants regard as their invention and/or to delete multiple dependency and claims 35 and 36 are added to conform with U.S. Patent and Trademark Office practice and procedure.

Respectfully submitted,

John W. Schneller

John W. Schneller
Registration No. 26,031

Venable
Post Office Box 34385
Washington, D.C. 20043-9998
Telephone: (202) 962-4800
Facsimile: (202) 962-8300

Date: November 15, 1999

#169725